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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF ALASKA

In re Crash of Aircraft N93PC	)	No. 3:15-cv-0112-HRH
	)	[Consolidated with
on July 7, 2013, at Soldotna, Alaska	)	No. 3:15-cv-0113-HRH and
_____	)	No. 3:15-cv-0115-HRH]

### ORDER

#### RAC's Motion in Limine No. 4 (Sommer)

Defendant Recon Air Corporation moves to exclude certain testimony of plaintiffs' expert, Colin Sommer.<sup>1</sup> This motion is opposed.<sup>2</sup> Oral argument was not requested and is not deemed necessary.

#### Background

On July 7, 2013, a deHavilland DHC-3 "Otter" airplane operated by Rediske Air, Inc. and piloted by Walter Rediske crashed shortly after take-off from the Soldotna Airport. Rediske and all of the passengers on board were killed in the crash. Plaintiffs, which are the estates of the passengers and Rediske, assert wrongful death, negligence, strict liability and breach of warranty claims against Recon Air.

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<sup>1</sup>Docket No. 342.

<sup>2</sup>Docket Nos. 348 and 350.

The subject aircraft was modified in 2010. The modifications were approved under Supplemental Type Certificates (STCs) and included a Texas Turbine Engine Conversion and a Baron Short Takeoff & Landing (STOL) kit. The engine conversion included the installation of a Honeywell TPE331 turbine engine. Recon Air installed both the engine and the Baron STOL Kit.

Sommer's expert report was disclosed on December 22, 2016. In his report, Sommer offered a number of opinions, including the following:

2. The witness statements and video evidence of the crash are supportive of an inflight engine failure compounded with an aft center of gravity, which resulted in loss of the control of the aircraft.
3. Installation of the STOL kit by Recon changed the center of gravity envelope for the aircraft. The aft of limits center of gravity during the subject flight was exacerbated by the STOL kit installation.

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11. Due to the sudden reduction in engine power with the aircraft in a climb attitude and an aft of limits CG, the aircraft pitched up and stalled. Pilot Rediske was unable to recover prior to impact.<sup>[3]</sup>

In the discussion section of his report, Sommer explained that “[f]ollowing [the] crash, Transport Canada issued Airworthiness Directive (AD) CF-2016-05, which revised the center of gravity limits for DHC-3 aircraft that have the Baron STOL kit installed” and that

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<sup>3</sup>Report of Findings at 21-22, Exhibit 3, Memorandum in Support of RAC's Motion in Limine No. 4 (Colin Sommer), Docket No. 343.

“[i]n conjunction with this AD, a new flight manual supplement was issued by Stolairus Aviation Inc. and the aft CG limit was changed to 148.3 inches.”<sup>4</sup> Prior to this change, the published aft CG limit had been 152.2 inches.<sup>5</sup> Sommer further explained that

[t]he change in center of gravity limits, due to Recon’s installation of the STOL kit likely exacerbated the aft of limits CG configuration during the subject flight; which would have been unbeknownst to pilot Rediske. Recon failed to investigate and determine the change in the center of gravity envelope due to the installation of the STOL kit.[<sup>6</sup>]

At his deposition, Sommer testified that the pilot “would not have been aware that the STOL kit moved the aft on the load up 4 inches.”<sup>7</sup> Sommer testified that while Recon Air “perform[ed] and complete[d] a weight and a balance on this aircraft after installation of the [Texas Turbine engine] conversion and the STOL kit[,]” Recon Air “didn’t do it properly.”<sup>8</sup>

Sommer also testified that

Recon should have done flight testing to establish what the new flight envelope was, given the fact that they implemented multiple STCs and didn’t have any way to correlate between the

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<sup>4</sup>Id. at 19.

<sup>5</sup>Id. at 20.

<sup>6</sup>Id. at 20.

<sup>7</sup>Deposition of Colin Sommer at 138:2-3, Exhibit 1, Memorandum in Support of RAC’s Motion in Limine No. 4 (Colin Sommer), Docket No. 343.

<sup>8</sup>Sommer Deposition at 157:13-17, Exhibit A, Plaintiff’s [sic] Responses to Recon Air Corporation’s Motion in Limine to Exclude the Testimony of Colin Sommer, Docket No. 348.

different STC holders as to what the effect on additional STCs would be.<sup>[9]</sup>

And, Sommer testified that he “indicated in my report that the aircraft crash was a combination of the loss of engine power in combination with the center of gravity limits being inappropriately determined.<sup>10</sup> Sommer testified that “my opinion is that without the engine failure, the accident doesn’t occur and without the center of gravity problems, the accident doesn’t occur.”<sup>11</sup> Sommer testified that he was

not saying that just the loss of the thrust vector on an empty airplane is going to make the airplane pitch up and stall. I’m saying in this accident that in combination with the aft CG and in combination with the weight and in combination with the loss of that thrust vector and even the flattening of the blades, then you end up with what we see in the video, which is the pitch up and stall of the aircraft.<sup>[12]</sup>

On December 11, 2017, Sommer’s rebuttal report was disclosed.<sup>13</sup> In this report, Sommer opined that an installer, such as Recon Air, “must ensure com[pat]ibility with other STC’s” and that “Recon Air’s failure to determine compatibility of the installed STC’s is a

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<sup>9</sup>Sommer Deposition at 144:12-17, Exhibit 1, Memorandum in Support of RAC’s Motion in Limine No. 4 (Colin Sommer), Docket No. 343.

<sup>10</sup>Sommer Deposition at 25:8-11, Exhibit A, Plaintiff’s [sic] Responses to Recon Air Corporation’s Motion in Limine to Exclude the Testimony of Colin Sommer, Docket No. 348.

<sup>11</sup>Id. at 128:7-10.

<sup>12</sup>Id. at 126:11-19.

<sup>13</sup>Exhibit 6, Memorandum in Support of RAC’s Motion in Limine No. 4 (Colin Sommer), Docket No. 343.

proximate cause of this crash.”<sup>14</sup> Sommer explained that “[m]odifications of [the] magnitude” done in 2010

change many aspects of the aerodynamics of the aircraft and are a great example of why the installer MUST ensure compatibility with other STC’s. There is no evidence that Recon Air ever consulted the STC holder of the STOL kit to determine if any testing had been done with the subject engine and in any case, according to the FAA, it was Recon’s responsibility to ensure that all STC’s were compatible.<sup>[15]</sup>

Sommer is the “Vice President and Aircraft Mishap and Failure Investigator with Aeroscope, Inc.”<sup>16</sup> Sommer has “a Bachelor of Science [degree] in engineering and civil and environmental engineering with an emphasis in structural design. . . .”<sup>17</sup> Sommer has extensive experience investigating aircraft accidents, having “personally investigated over 350 different” accidents.<sup>18</sup> He testified that his post-graduate formal training in accident investigation consisted of a two-week course at the NTSB Academy, a two-week course at

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<sup>14</sup>Id. at 3 (emphasis omitted).

<sup>15</sup>Id.

<sup>16</sup>Appendix 2 - Curriculum Vitae of Colin A. Sommer, P.E., Exhibit 2 at 1, Memorandum in Support of RAC’s Motion in Limine No. 4 (Colin Sommer), Docket No. 343.

<sup>17</sup>Sommer Deposition at 8:21-24, Exhibit 1, Memorandum in Support of RAC’s Motion in Limine No. 4 (Colin Sommer), Docket No. 343.

<sup>18</sup>Appendix 2 -- Sommer CV, Exhibit 2 at 2, Memorandum in Support of RAC’s Motion in Limine No. 4 (Colin Sommer), Docket No. 343.

the Southern California Safety Institute, and a week-long course at Teledyne.<sup>19</sup> Sommer has a pilot's license but has never owned or operated a certified aviation Repair Station or an approved aviation maintenance organization. He does not hold an aviation Airframe and/or Powerplant certificate or an Inspection Authorization certificate.

In his expert report, Sommer described the methodology that he used as follows:

While investigating this crash, I followed the guidance and investigative techniques found in numerous widely accepted accident investigation manuals, including but not limited to the ICAO Manual of Aircraft Accident and Incident Investigation, the US Navy Aircraft Accident Investigation Handbook, the US Air Force Guide to Mishap Investigation, the US Army Accident Investigation Manual, the Canada Transportation Safety Board Investigations Manual and the University of Southern California Aircraft Accident Investigation Manual. I relied upon my experience, training as a crash investigator, inspection and testing of the wreckage and review of all available data to determine the root cause of this crash.<sup>[20]</sup>

Recon Air now moves to exclude Sommer's opinion regarding the duty of care for an installer facility and his opinion that the installation of the STOL kit changed the center of gravity envelope in the accident aircraft.

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<sup>19</sup>Sommer Deposition at 12:6-18, Exhibit 1, Memorandum in Support of RAC's Motion in Limine No. 4 (Colin Sommer), Docket No. 343.

<sup>20</sup>Report of Findings at 21, Exhibit B, Plaintiff's [sic] Responses to Recon Air Corporation's Motion in Limine to Exclude the Testimony of Colin Sommer, Docket No. 348. There is some discussion in the briefing as to whether Sommer was required to attach these manuals to his report. Recon Air suggests he was; plaintiffs contend that it was sufficient that he identified them. The fact that Sommer did not attach these manuals to his report has no bearing on whether he may offer the opinions in question.

## Discussion

Rule 702, which governs the admissibility of expert testimony,

provides that expert opinion evidence is admissible if: (1) the witness is sufficiently qualified as an expert by knowledge, skill, experience, training, or education; (2) the scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (3) the testimony is based on sufficient facts or data; (4) the testimony is the product of reliable principles and methods; and (5) the expert has reliably applied the relevant principles and methods to the facts of the case.

City of Pomona v. SQM North America Corp., 750 F.3d 1036, 1043 (9th Cir. 2014). “Before admitting expert testimony into evidence, the district court must perform a ‘gatekeeping role’ of ensuring that the testimony is both ‘relevant’ and ‘reliable’ under Rule 702.” United States v. Ruvalcaba-Garcia, 923 F.3d 1183, 1188 (9th Cir. 2019) (quoting Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 597 (1993)). “Relevancy simply requires that ‘the evidence logically advance a material aspect of the party’s case.’” Id. (quoting Estate of Barabin v. AstenJohnson, Inc., 740 F.3d 457, 463 (9th Cir. 2014)). “[R]eliability’ . . . requires that the expert’s testimony have ‘a reliable basis in the knowledge and experience of the relevant discipline.’” Id. at 1188-89 (quoting Barabin, 740 F.3d at 463). “The district court must assess whether ‘the reasoning or methodology underlying the testimony is scientifically valid’ and ‘properly can be applied to the facts in issue[.]’” Id. at 1189 (quoting Daubert, 509 U.S. at 592–93). “The district court is not tasked with deciding whether the expert is right or wrong, just whether his testimony has substance such that it would be

helpful to a jury.’” City of Pomona, 750 F.3d at 1044 (quoting Alaska Rent-A-Car, Inc. v. Avis Budget Group, Inc., 738 F.3d 960, 969-70 (9th Cir. 2013)). “The court must assess the expert’s reasoning or methodology, using as appropriate criteria such as testability, publication in peer-reviewed literature, known or potential error rate, and general acceptance.” Id. “But these factors are ‘meant to be helpful, not definitive, and the trial court has discretion to decide how to test an expert’s reliability as well as whether the testimony is reliable, based on the particular circumstances of the particular case.’” Id. (quoting Primiano v. Cook, 598 F.3d 558, 564 (9th Cir. 2010)). “[O]bjections to the inadequacies of” an expert’s analysis “are more appropriately considered an objection going to the weight of the evidence rather than its admissibility[.]” Hemmings v. Tidyman’s Inc., 285 F.3d 1174, 1188 (9th Cir. 2002). “[T]he factfinder may be confronted with opposing experts, additional tests, experiments, and publications, all of which may increase or lessen the value of the expert’s testimony. But their presence should not preclude the admission of the expert’s testimony—they go to the weight, not the admissibility.” Kennedy v. Collagen Corp., 161 F.3d 1226, 1230-31 (9th Cir. 1998).

Recon Air first challenges the reliability of Sommer’s opinion that the installation of the STOL kit changed the center of gravity envelope, arguing that this opinion is not based on reliable methods and principles. Plaintiffs disagree and argue that Sommer’s methodology as it relates to this opinion is reliable. Plaintiffs contend that Sommer performed his own weight and balance calculations and determined that the CG of the accident aircraft was aft



of the published limit, as well as aft of the correct aft CG limit and that he explained these calculations at his deposition.<sup>21</sup> Plaintiffs also contend that Sommer relied on the Airworthiness Directives discussed above, and on Dr. Cochran's expert report. And plaintiffs point out that Sommer analyzed the physical and video evidence available. Thus, plaintiffs argue that any argument that Sommer's methodology was unreliable should fail. Plaintiffs insist that Recon Air's objections to Sommer's CG opinion goes to the weight that should be given this opinion, not whether this opinion should be admitted.

The problem here is that Sommer did not perform any independent tests to confirm that the installation of the STOL kit changed the center of gravity envelope.<sup>22</sup> Sommer's opinion that the installation of the STOL kit changed the center of gravity envelope is largely based on the 2016 Canadian airworthiness directive (AD) and FMS #4, evidence that in an order being issued concurrently with this order, the court has ruled inadmissible. Without this evidence, there is little to no factual basis for Sommer's CG opinion. In addition, Sommer was asked at his deposition whether he "reach[ed] a conclusion about what the effect on the aircraft's handling was from the center of gravity being located at 157.94 inches?" and he responded that "I'm not sure that from a scientific analysis or calculation

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<sup>21</sup>Sommer Deposition at 27:20-28:12; 62:15-63:4, Exhibit A, Plaintiff's [sic] Responses to Recon Air Corporation's Motion in Limine to Exclude the Testimony of Colin Sommer, Docket No. 348.

<sup>22</sup>Sommer did a weight and balance calculation of the accident aircraft, but that has no bearing on the general question of whether the installation of a STOL kit changed the center of gravity envelope.

standpoint I did[.]”<sup>23</sup> Sommer’s answer was candid but also raises doubts about the reliability of his center of gravity opinion. Sommer’s opinion that the installation of the STOL kit changed the center of gravity envelope on the accident aircraft lacks a reliable basis and thus this opinion and any testimony related to it must be excluded.

Recon Air next argues that Sommer’s opinion that an installer had a duty to conduct flight testing after multiple STCs were implemented must be excluded because he is not qualified to offer an opinion about the duties of an installer. As set out above, Sommer has never operated an aviation maintenance and installation facility, he is not a certified aviation mechanic, and he does not hold an Inspection Authority certification. Sommer has also not gained any specialized knowledge through investigating an installer’s duty. When asked about this at his deposition, the following exchange took place:

- Q. Have you made an effort to determine what the industry standard is in [regard to the responsibilities of installer?]
- A. No.
- Q. Have you contacted even a single installer performing services similar to Recon Air Corporation to determine what they do to satisfy this airworthiness circular?
- A. No.
- Q. Would it be fair to say you are not in a position to testify as an expert about what the industry standard is with respect to the installation of a Baron STOL kit and the determination of its compatibility with a turbine engine?
- A. I was not asked to make that determination.
- Q. And you have not made that determination; is that fair?
- A. As far as to what industry standard is?

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<sup>23</sup>Sommer Deposition at 34:15-19, Exhibit 1, Memorandum in Support of RAC’s Motion in Limine No. 4 (Colin Sommer), Docket No. 343.

Q. Yes.  
A. No, I have not.<sup>[24]</sup>

In addition, Sommer testified that he has “offered opinion on center of gravity limits and controllability of aircraft, but I don’t think I’ve ever offered the specific opinion that an installer erroneously failed to conduct the proper tests to ensure that the application was fit for the use.”<sup>25</sup> Sommer testified that

I deal with installer cases all the time. There is testing that I have opined that needed to be done. Sometimes it’s not flight testing. Sometimes it’s endurance testing. Sometimes it’s fatigue testing. There are all kinds of different ways that installers can verify their work and ways that I’ve had to develop that they should have gone through and verified that work.

But as far as specific flight tests that I’ve demanded that be done, I recall a Piper Seminole that had a carb heat system in it that didn’t work right, and the installer didn’t check it right. And they should have flight-tested it and then measured the carb heat, which we did. So that’s an example. But it’s difficult as I sit here to remember, you know, over 400 different accidents and all the times where an installer was involved because there’s so many and there’s so many different applications that specific flight testing just doesn’t come to mind.<sup>[26]</sup>

Sommer’s deposition testimony confirms that he is not qualified to testify about the duties of an installer. Of particular import is his testimony that he did not even attempt to

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<sup>24</sup>Id. at 176:13-177:10.

<sup>25</sup>Id. at 150:12-17.

<sup>26</sup>Sommer Deposition at 149:8-150:3, Exhibit A, Plaintiff’s [sic] Responses to Recon Air Corporation’s Motion in Limine to Exclude the Testimony of Colin Sommer, Docket No. 348.

figure out what the industry standard for an installer was. His general experience in dealing with cases involving installers does not make him qualified to offer an opinion as to the duty of care for an installer facility. Because Sommer is not qualified to testify about the duties of an installer, his opinion and testimony related to this issue must be excluded.<sup>27</sup>

### Conclusion

RAC's motion in limine No. 4<sup>28</sup> is granted. Colin Sommer's opinion and related testimony as to the duty of care for an installer facility and his opinion and related testimony that the installation of the STOL kit changed the center of gravity envelop in the accident aircraft are excluded.

DATED at Anchorage, Alaska, this 21st day of April, 2020.

/s/ H. Russel Holland  
United States District Judge

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<sup>27</sup>Because the court concludes that Sommer is not qualified to offer an opinion as to the duty of an installer, the court need not consider Recon Air's other arguments as to why Sommer's duty of care opinion should be excluded.

<sup>28</sup>Docket No. 342.